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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/654,274

09/01/2000

Yoshinori Miyajima

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01/16/2004

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EXAMINER

APPIAH, CHARLES NANA

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 01/16/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,274

Applicant(s)

MIYAJIMA ET AL.

Examiner

Charles Appiah

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16, and 24-28 is/are allowed.
- 6) ☒ Claim(s) 1,3-6,17, 20, and 29-31 is/are rejected.
- 7) ☒ Claim(s) 7-11,18,19,21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3-22, and 24-31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3, 4, 5, 6, 17, 29 and 30 are rejected under 35 U.S.C. 103(a) as being anticipated by **Tsumura (6,044,253)**.

Regarding claims 1, 3, 4, 17, 29 and 30 Tsumura discloses a radio receiver comprising: a gain controlling means (201, 202), controlling a gain of the receiver, an electric field intensity (level detector 109), for detecting an electric field intensity of a received signal (see col. 4, lines 39-45), an error rate measuring means (108), for measuring an error rate of the received signal (see col. 4, lines 50-55), a first controlling means (203) for causing the gain controlling means to start the gain control operation when the electric field intensity detecting means reaches the threshold of the electric field intensity level (see col. 4, line 56 to col. 5, line 6). See Figs. 1-2.

Regarding claims 5 and 6 Tsumura further shows wherein the gain controlling means is a stepwise gain control type, which changes the gain by a predetermined amount when a signal level of the received signal exceeds a predetermined level (see col. 4, line 61 to col. 5, line 37).

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1, 3-6, 9, 17, 20/1, 29, 30, 31/17, 31/29 and 31/30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rich et al. (5,758,271)** in view of **Dohi et al. (6,341,224)**.

Regarding claims 1, 3-4, 17, 29 and 30, Rich discloses a radio receiver comprising: a gain controlling means (112), for controlling a gain of the radio receiver (108), an electric field intensity detecting means (217) for detecting an electric field intensity of a received signal (see col. 6, lines 46-57), an error rate measuring means for measuring an error rate of the received signal (see col. 6, lines 27-34), and a first controlling means for causing the gain controlling means to start the gain control operation when the electric field intensity detected by the electric field intensity detecting means reaches the threshold of electric field intensity level which starts the gain control operation (see col. 7, line 54 to col. 8, line 14, col. 10, lines 44-57). See Figs. 1-3. Rich further teaches as illustrated in Fig. 4, an alternative gain controller that uses comparators to determine whether the quality of a received signal is favorable or unfavorable and based on the outcome of the comparison, adjusts the gain of the receiver (see col. 10, lines 15-43). Rich, however, fails to teach, a threshold setting means for setting a threshold of an electric field intensity level based on the measured error rate of the received signal or based on the transmission condition of the received signal.

Dohi discloses a system for achieving transmission power control which provides consistent channel quality irrespective of the propagation environment by using an error rate measuring means for measuring an error rate of a received signal and means for changing a threshold value of a signal-to-interference ratio (SIR) value for power control according to the measured received signal error rate (see col. 2, line 42 to col. 3, line 58, col. 4, lines 20-44 and col. 6, lines 4-32). Dohi is pertinent to the instant invention as claimed since it is very well known that gain control is directly related to power control in mobile communications.

It would therefore have been obvious to one of ordinary skill in the art to incorporate the dynamic target value changing method of Dohi into the system of Rich in order to ensure achieving transmission power and gain control which provides consistent channel quality irrespective of the propagation environment.

Regarding claims 5 and 6, Rich further shows wherein the gain controlling means is a stepwise gain control type, which changes the gain by a predetermined amount when a signal of the received signal exceeds a predetermined level or a continuous gain control type which changes the gain in response to a signal level of the received signal (see col. 8, lines 15-48, col. 10, lines 1-15).

Regarding claim 9/1, Rich further discloses a threshold range setting means for setting an available range of the threshold of electric intensity level, which is defined by a maximum value and a minimum value (see col. 8, lines 32-38).

Regarding claim 20/17, Rich further discloses a threshold range setting means for setting an available range of the threshold of electric intensity level, which is defined by a maximum value and a minimum value (see col. 8, lines 32-38).

Regarding claim 31/17, 31/29 and 31/30, Rich's teaching of implementing the gain controller in software and using a signal processor (see col. 5, lines 47-67), read on a computer-readable recording medium for storing a program which causes a computer to execute a radio receiving method.

Allowable Subject Matter

6. Claims 12-16, 24-28 are allowed.
7. Claims 7, 8, 9, 10, 11, 18, 19, 21, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bonnerot et al. (4,777,653) discloses an apparatus for controlling transmission power over a dynamic adjustment range.

Ahmed et al. (5,946,346) discloses a method for generating a power control command with adjustable channel quality threshold.


Kim (6,173,188) discloses a method for forward link gain control using frame erasure indicator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Appiah whose telephone number is 703 305-4772. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.

CA


CHARLES APPIAH
PRIMARY EXAMINER